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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	CP-2018-31-12-139 **Date: 26-10-18**
Project Name	:	Package No.03 (Package Consists of 21 Works)
Name of Work	:	Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08
Agency	:	Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.
Customer's Reference	:	BBMP/EE/BTP/WO/148/2018-19
Date of Receipt	:	23-10-18
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	24-10-18
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	1.84	_
2	Finess by Air permeablity method (m^2/kg,Min)	348.6	225m^2/kg, Min
3	Density (gm/cc)	3.15	_
4	Standard Consistency (%)	28.5%	Not specified
5	Initial Setting time	135 minutes	Not less than 30 minutes
6	Final Setting time	245 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2018-31-12-139**	**Date: 21-11-18**
Project Name	:	Package No.03 (Package Consists of 21 Works)	
Name of Work	:	Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08	
Agency	:	Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.	
Customer's Reference	:	BBMP/EE/BTP/WO/148/2018-19	
Date of Receipt	:	23-10-18	
Sample Type	:	Birla Super 53grade	
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6	
Date of test	:	24-10-18	
Environmental Conditions during test	:	Temperature: Humidity:	26°C 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	58.5N/mm^2	Not less than 53 N/mm^2

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2018-31-12-139** **Date: 26-10-18**
Project Name	:	Package No.03 (Package Consists of 21 Works)
Name of Work	:	Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08
Agency	:	Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.
Customer's Reference	:	BBMP/EE/BTP/WO/148/2018-19
Date of Receipt	:	23-10-18
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	23-10-18

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80mm	0	0	0.0	100	100
2	40 mm	215	215	1.4	98.6	90-100
3	20 mm	7455	7670	51.1	48.9	30-70
4	10 mm	4266	11936	79.6	20.4	10-35
5	4.75 mm	2844	14780	98.5	1.5	0-5
6	Pan	220	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2018-31-12-139** **Date: 26-10-18**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	11.9	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.3	
3	Specific Gravity	2.64	_
4	Bulk Density(Loose) (Kg/l)	1.41	_
5	Bulk Density(Compacted) (Kg/l)	1.47	_
6	Water Absorption(%)	0.23	_

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2018-31-12-139** **Date: 26-10-18**
Project Name	:	Package No.03 (Package Consists of 21 Works)
Name of Work	:	Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08
Agency	:	Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.
Customer Reference	:	BBMP/EE/BTP/WO/148/2018-19
Date of Receipt	:	23-10-18
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	23-10-18

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	225	225	4.5	95.5	90-100
3	10 mm	2845	3070	61.4	38.6	25-55
4	4.75 mm	1745	4815	96.3	3.7	0-10
5	Pan	185	5000	100	0	_

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2018-31-12-139** **Date: 26-10-18**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	13.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	10.1	
3	Specific Gravity	2.68	_
4	Bulk Density(Loose) (Kg/l)	1.43	_
5	Bulk Density(Compacted) (Kg/l)	1.49	_
6	Water Absorption(%)	0.23	_
7	Aggregate crushing Value(%)	22.9	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	23.7	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2018-31-12-139** **Date: 26-10-18**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 23-10-18

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 23-10-18

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	27	27	2.7	97.3	90-100	90-100	90-100	95-100
3	2.36 mm	55	82	8.2	91.8	60-95	75-100	85-100	95-100
4	1.18 mm	239	321	32.1	67.9	30-70	55-90	75-100	90-100
5	600 micron	205	526	52.6	47.4	15-34	35-59	60-79	80-100
6	300 micron	203	729	72.9	27.1	5-20	8-30	12-40	15-50
7	150 micron	191	920	92.0	8.0	0-10	0-10	0-10	0-15
8	Pan	80	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2018-31-12-139** **Date: 26-10-18**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.5	_
2	Specific Gravity	2.59	_
3	Material finer than 75 micron(%)	6.9	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 21/11/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 16-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 21/11/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	14/11/2018	21/11/2018	149.84 X 151.64 X 149.20	22722	**8.034**	427.4	18.8	18.6
2	Drain Concrete	M20	14/11/2018	21/11/2018	150.34 X 150.94 X 149.40	22692	**8.812**	413.0	18.2	
3	Drain Concrete	M20	14/11/2018	21/11/2018	151.53 X 151.51 X 151.83	22959	**8.125**	431.1	18.8	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 12/12/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 16-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 12/12/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	14/11/2018	12/12/2018	151.92 X 151.35 X 151.69	22993	**8.743**	547.8	23.8	23.1
2	Drain Concrete	M20	14/11/2018	12/12/2018	151.29 X 149.73 X 151.98	22654	**8.297**	501.6	22.1	
3	Drain Concrete	M20	14/11/2018	12/12/2018	151.65 X 149.62 X 149.71	22690	**8.313**	529.4	23.3	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 21/11/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 16-11-18

Customer ID : Drain Bottom Slab Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 21/11/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Slab Concrete	M20	14/11/2018	21/11/2018	151.12 X 151.80 X 151.61	22940	**8.221**	422.7	18.4	18.7
2	Drain Bottom Slab Concrete	M20	14/11/2018	21/11/2018	149.86 X 150.34 X 149.82	22530	**8.147**	421.9	18.7	
3	Drain Bottom Slab Concrete	M20	14/11/2018	21/11/2018	151.80 X 150.73 X 149.40	22882	**8.896**	432.1	18.9	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 12/12/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 16-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 12/12/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	14/11/2018	12/12/2018	150.12 X 151.99 X 151.35	22817	**8.522**	547.4	24.0	23.3
2	Drain Concrete	M20	14/11/2018	12/12/2018	150.26 X 151.52 X 151.43	22768	**8.881**	509.9	22.4	
3	Drain Concrete	M20	14/11/2018	12/12/2018	151.72 X 151.07 X 151.05	22920	**8.950**	537.4	23.4	

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Assistant Executive Engineer,
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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139**

Date: 21/11/2018

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 16-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 21/11/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	14/11/2018	21/11/2018	149.71 X 151.09 X 151.77	22620	**8.262**	429.5	19.0	18.5
2	Drain Concrete	M20	14/11/2018	21/11/2018	151.75 X 150.36 X 150.28	22818	**8.949**	415.4	18.2	
3	Drain Concrete	M20	14/11/2018	21/11/2018	151.03 X 149.76 X 150.67	22618	**8.279**	410.9	18.2	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 12/12/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 16-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 12/12/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	14/11/2018	12/12/2018	149.82 X 149.98 X 150.90	22470	**8.087**	537.9	23.9	23.5
2	Drain Concrete	M20	14/11/2018	12/12/2018	150.57 X 151.72 X 150.55	22845	**8.568**	522.7	22.9	
3	Drain Concrete	M20	14/11/2018	12/12/2018	149.48 X 150.56 X 151.22	22504	**8.274**	533.5	23.7	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 27/11/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 22-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 27/11/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	20/11/2018	27/11/2018	150.16 X 150.05 X 150.50	22532	**8.005**	406.4	18.0	18.1
2	Drain Concrete	M20	20/11/2018	27/11/2018	151.70 X 150.22 X 150.86	22789	**8.314**	413.7	18.2	
3	Drain Concrete	M20	20/11/2018	27/11/2018	150.26 X 151.67 X 150.09	22790	**8.880**	413.1	18.1	

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.
Bangalore.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 18/12/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 22-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 18/12/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	20/11/2018	18/12/2018	149.69 X 150.45 X 150.63	22520	**8.323**	524.4	23.3	23.3
2	Drain Concrete	M20	20/11/2018	18/12/2018	151.32 X 150.08 X 150.18	22710	**8.025**	521.7	23.0	
3	Drain Concrete	M20	20/11/2018	18/12/2018	150.31 X 151.15 X 151.39	22719	**8.639**	539.8	23.8	

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CIVIL Pro Sig Date BANGALORE

Assistant Executive Engineer,
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Bangalore.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 27/11/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 22-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 27/11/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	20/11/2018	27/11/2018	150.30 X 150.43 X 149.03	22610	**8.179**	409.2	18.1	18.2
2	Drain Concrete	M20	20/11/2018	27/11/2018	151.47 X 150.57 X 151.38	22808	**8.467**	416.1	18.2	
3	Drain Concrete	M20	20/11/2018	27/11/2018	149.18 X 149.08 X 151.59	22239	**8.602**	403.0	18.1	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 18/12/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 22-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 18/12/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	20/11/2018	18/12/2018	149.42 X 149.27 X 149.87	22305	**8.595**	523.2	23.5	23.0
2	Drain Concrete	M20	20/11/2018	18/12/2018	151.52 X 151.76 X 149.59	22994	**8.957**	512.2	22.3	
3	Drain Concrete	M20	20/11/2018	18/12/2018	151.51 X 151.45 X 149.83	22946	**8.940**	534.6	23.3	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 27/11/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 22-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 27/11/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	20/11/2018	27/11/2018	149.19 X 151.68 X 150.05	22629	**8.025**	420.6	18.6	18.8
2	Drain Concrete	M20	20/11/2018	27/11/2018	150.28 X 149.62 X 150.72	22486	**8.940**	426.3	19.0	
3	Drain Concrete	M20	20/11/2018	27/11/2018	151.84 X 151.19 X 151.12	22955	**8.702**	432.1	18.8	

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R KARTHIK RECHAN
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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 18/12/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 22-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 18/12/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	20/11/2018	18/12/2018	150.96 X 151.03 X 149.24	22800	**8.527**	535.9	23.5	23.2
2	Drain Concrete	M20	20/11/2018	18/12/2018	150.11 X 151.09 X 150.83	22681	**8.978**	517.0	22.8	
3	Drain Concrete	M20	20/11/2018	18/12/2018	151.61 X 151.36 X 151.00	22948	**8.365**	532.3	23.2	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 01/12/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 26-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 01/12/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	24/11/2018	01/12/2018	150.16 X 151.62 X 150.23	22768	**8.013**	426.9	18.8	18.7
2	Drain Concrete	M20	24/11/2018	01/12/2018	150.30 X 151.41 X 151.03	22757	**8.657**	430.8	18.9	
3	Drain Concrete	M20	24/11/2018	01/12/2018	149.50 X 149.30 X 149.84	22320	**8.987**	413.0	18.5	

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

CIVIL Pro Sig. Date. BANGALORE

Assistant Executive Engineer,
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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 22/12/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 26-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 22/12/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	24/11/2018	22/12/2018	150.65 X 150.62 X 149.73	22691	**8.003**	529.2	23.3	23.0
2	Drain Concrete	M20	24/11/2018	22/12/2018	150.18 X 150.81 X 150.56	22649	**8.981**	510.8	22.6	
3	Drain Concrete	M20	24/11/2018	22/12/2018	151.32 X 149.32 X 149.94	22596	**8.212**	525.3	23.2	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 01/12/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Nameof Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 26-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 01/12/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	24/11/2018	01/12/2018	149.56 X 150.33 X 149.08	22483	**8.479**	419.3	18.7	18.4
2	Drain Concrete	M20	24/11/2018	01/12/2018	151.88 X 150.12 X 149.27	22801	**8.196**	412.8	18.1	
3	Drain Concrete	M20	24/11/2018	01/12/2018	149.77 X 151.19 X 151.24	22644	**8.357**	416.3	18.4	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 22/12/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 26-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 22/12/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	24/11/2018	22/12/2018	150.06 X 150.85 X 149.90	22636	**8.694**	537.0	23.7	23.4
2	Drain Concrete	M20	24/11/2018	22/12/2018	151.19 X 150.02 X 150.68	22683	**8.777**	516.8	22.8	
3	Drain Concrete	M20	24/11/2018	22/12/2018	149.36 X 151.18 X 151.31	22580	**8.815**	536.0	23.7	

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Quality Manager

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 01/12/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 10-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 01/12/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	24/11/2018	01/12/2018	151.47 X 151.21 X 151.93	22903	**8.230**	425.9	18.6	18.5
2	Drain Concrete	M20	24/11/2018	01/12/2018	150.50 X 151.34 X 149.83	22777	**8.538**	427.2	18.8	
3	Drain Concrete	M20	24/11/2018	01/12/2018	149.83 X 150.47 X 150.38	22546	**8.443**	407.6	18.1	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2018-31-12-139** **Date: 22/12/2018**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 26-11-18

Customer ID : Drain Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 22/12/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Concrete	M20	24/11/2018	22/12/2018	149.76 X 150.16 X 149.35	22488	**8.160**	529.6	23.5	23.1
2	Drain Concrete	M20	24/11/2018	22/12/2018	151.17 X 151.99 X 151.88	22976	**8.159**	516.6	22.5	
3	Drain Concrete	M20	24/11/2018	22/12/2018	151.58 X 149.56 X 149.88	22670	**8.349**	524.9	23.2	

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R KARTHIK RECHAN
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TEST RESULTS OF STEEL

Lab ID : **CP-2018-31-12-139** **Date: 29-10-18**

Project Name : Package No.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains in Balaji Layout at Kodigehalli Ward N0.08

Agency : Sri.C.G.Chandrappa, # 1C-301,3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 27-10-18

Sample Type : Sunvik

Reference to BIS codes : IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2012.

Date of test: : 27-10-18

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample	Yield stress	Tensile strength	Elongation	Bend test	Rebend test
			(mm)	(kg/m)	(N/mm2)	(N/mm2)	(%)		
1	Sunvik	Fe500	8	0.392	513	653	20.0%	Satisfactory	Satisfactory
2	Sunvik	Fe500	10	0.615	526	674	20.0%	Satisfactory	Satisfactory
3	Sunvik	Fe500	12	0.887	545	667	20.0%	Satisfactory	Satisfactory

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

CIVIL Pro Sig..... Date..... BANGALORE

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2018-12-31-139** **Date: 25-10-18**
Project Name	:	Package N0.03 (Package Consists of 21 Works)
Name of Work	:	Improvements to Roads and Drains at Shanbog Narayanappa Layout at Kodigehalli Ward No.08
Agency	:	Sri.C.G.Chandrappa, #1C-301, 3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.
Customer's Reference	:	BBMP/EE/BTP/WO/148/2018-19
Date of Receipt	:	23-10-18
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	23-10-18
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	1.87	–
2	Finess by Air permeablity method (m^2/kg,Min)	348.6	225m^2/kg, Min
3	Density (gm/cc)	3.14	–
4	Standard Consistency (%)	28.5%	Not specified
5	Initial Setting time	135 minutes	Not less than 30 minutes
6	Final Setting time	245 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

Assistant Executive Engineer,
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Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2018-12-31-139**	**Date: 20-11-18**
Project Name	:	Package N0.03 (Package Consists of 21 Works)	
Name of Work	:	Improvements to Roads and Drains at Shanbog Narayanappa Layout at Kodigehalli Ward No.08	
Agency	:	Sri.C.G.Chandrappa, #1C-301, 3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.	
Customer's Reference	:	BBMP/EE/BTP/WO/148/2018-19	
Date of Receipt	:	23-10-18	
Sample Type	:	Birla Super 53grade	
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6	
Date of test	:	23-10-18	
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%	

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	58.5N/mm^2	Not less than 53 N/mm^2

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2018-12-31-139** **Date: 26-10-18**
Project Name	:	Package N0.03 (Package Consists of 21 Works)
Name of Work	:	Improvements to Roads and Drains at Shanbog Narayanappa Layout at Kodigehalli Ward No.08
Agency	:	Sri.C.G.Chandrappa, #1C-301, 3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.
Customer's Reference	:	BBMP/EE/BTP/WO/148/2018-19
Date of Receipt	:	23-10-18
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	23-10-18

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80mm	0	0	0.0	100	100
2	40 mm	215	215	1.4	98.6	90-100
3	20 mm	7455	7670	51.1	48.9	30-70
4	10 mm	4266	11936	79.6	20.4	10-35
5	4.75 mm	2844	14780	98.5	1.5	0-5
6	Pan	220	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2018-12-31-139** **Date: 26-10-18**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	11.8	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.4	
3	Specific Gravity	2.64	_
4	Bulk Density(Loose) (Kg/l)	1.43	_
5	Bulk Density(Compacted) (Kg/l)	1.46	_
6	Water Absorption(%)	0.26	_

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2018-12-31-139** **Date: 25-10-18**
Project Name	:	Package N0.03 (Package Consists of 21 Works)
Name of Work	:	Improvements to Roads and Drains at Shanbog Narayanappa Layout at Kodigehalli Ward No.08
Agency	:	Sri.C.G.Chandrappa, #1C-301, 3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.
Customer Reference	:	BBMP/EE/BTP/WO/148/2018-19
Date of Receipt	:	23-10-18
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	23-10-18

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40mm	0	0	0	100	100
2	20 mm	225	225	4.5	95.5	90-100
3	10 mm	2845	3070	61.4	38.6	25-55
4	4.75 mm	1745	4815	96.3	3.7	0-10
5	Pan	185	5000	100	0	_

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2018-12-31-139** **Date: 25-10-18**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	13.4	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	10.2	
3	Specific Gravity	2.68	_
4	Bulk Density(Loose) (Kg/l)	1.44	_
5	Bulk Density(Compacted) (Kg/l)	1.49	_
6	Water Absorption(%)	0.26	_
7	Aggregate crushing Value(%)	22.9	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	23.8	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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End of Report

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2018-12-31-139** **Date: 26-10-18**

Project Name : Package N0.03 (Package Consists of 21 Works)

Name of Work : Improvements to Roads and Drains at Shanbog Narayanappa Layout at Kodigehalli Ward No.08

Agency : Sri.C.G.Chandrappa, #1C-301, 3rd Main Block, HRBR Layout, Kalyan Nagar Bangalore-560043.

Customer's Reference : BBMP/EE/BTP/WO/148/2018-19

Date of Receipt : 23-10-18

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 23-10-18

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	27	27	2.7	97.3	90-100	90-100	90-100	95-100
3	2.36 mm	55	82	8.2	91.8	60-95	75-100	85-100	95-100
4	1.18 mm	239	321	32.1	67.9	30-70	55-90	75-100	90-100
5	600 micron	205	526	52.6	47.4	15-34	35-59	60-79	80-100
6	300 micron	203	729	72.9	27.1	5-20	8-30	12-40	15-50
7	150 micron	191	920	92.0	8.0	0-10	0-10	0-10	0-15
8	Pan	80	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2018-12-31-139** **Date: 26-10-18**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.6	_
2	Specific Gravity	2.54	_
3	Material finer than 75 micron(%)	6.4	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

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